

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/554,386

Source: P4/10

Date Processed by STIC: 11/1/05

# ***ENTERED***



PCT

## RAW SEQUENCE LISTING

DATE: 11/01/2005

PATENT APPLICATION: US/10/554,386

TIME: 10:58:39

Input Set : A:\EP04-001C-USpatentin.txt

Output Set: N:\CRF4\11012005\J554386.raw

3 <110> APPLICANT: EXELIXIS PLANT SCIENCES, INC.  
 5 <120> TITLE OF INVENTION: GENES UPREGULATED IN A TOMATO PLANT HAVING AN INCREASED  
 6 ANTHOCYANIN CONTENT PHENOTYPE  
 8 <130> FILE REFERENCE: EP04-001C-US  
 C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/554,386  
 C--> 10 <141> CURRENT FILING DATE: 2005-10-25  
 10 <150> PRIOR APPLICATION NUMBER: US 60/465,605  
 11 <151> PRIOR FILING DATE: 2003-04-25  
 13 <160> NUMBER OF SEQ ID NOS: 12  
 15 <170> SOFTWARE: PatentIn version 3.2  
 17 <210> SEQ ID NO: 1  
 18 <211> LENGTH: 1675  
 19 <212> TYPE: DNA  
 20 <213> ORGANISM: Lycopersicon esculentum  
 22 <400> SEQUENCE: 1

P.6

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25	ctactccggc	tccggcggaac	gcaacgacct	tatcggggcg	gacggggact	accgtccggc	120
27	gaaaagtaca	aaggattggt	gggcaatttt	ctgtgtggag	acattgaaac	tgtggagaat	180
29	tggaggtcct	atagcattca	acataatctg	ccaatatgga	gtgaattctc	ttacaaatat	240
31	atgtgttgga	catcttgga	atgttgagct	ctctgctatt	tctattgctc	agactgttat	300
33	tagtactttt	tcttttggt	tcatgatggg	aatgggtagt	gcattggaga	cactatgtgg	360
35	ccaggcatat	ggagcagggc	aagttcacat	gttgggcgtt	tatatgcaac	gatccatcat	420
37	aatcctgcta	gctacttggt	tctttctatt	gcccatttac	ttattcacca	ctccacttct	480
39	cgtgttgcta	ggccaagaaa	ctgcaatagc	ggacctctct	ggaagatata	ccatgttact	540
41	catcccacag	ttgttttcac	ttgctatcaa	ttttcctact	tccaaatttc	ttcaagctca	600
43	gagtaaagtg	gatgttctcg	ctgggattgg	attcgcagct	gtgctgggtg	acgctttggt	660
45	cctctggctc	tttatatata	cacttgaatg	gggtactaat	ggtgctgcta	tagcctttga	720
47	cctcacgaat	tggcttactg	cgatggctca	attagcatac	gttgttggat	ggtgtaagga	780
49	tgggtggaaa	gggttgctgt	ggtcagcgtt	caatgagatt	tgggcattcg	tgagactttc	840
51	tattgcttca	gctgttatgt	tatgccttga	gatttggtag	atgatgagta	ttattctcct	900
53	tgttggtccat	cttaacaacg	cogtcatagc	agttggctcc	atttcaattt	gtatgaacat	960
55	caatggatgg	gagagcatgc	ttttcattgg	aattaatgct	gccataagca	tccgagtctc	1020
57	aaatgaactg	gggcaaggac	atccaagagc	taccaaatat	tcggtctaca	tcacggtggt	1080
59	tcagtccctc	ctaataaggga	tactctgcat	ggtaattgta	ctagtagcta	gagatcatct	1140
61	ggccattatc	ttttcaaaca	gcaaggagat	gcaagaagct	gttgcctgat	ttgcttacct	1200
63	tctagggtat	accatgggtc	ttaatagcgt	tcagccggtt	atatcagggg	ttgctgttgg	1260
65	aggtggatgg	caagcttttag	tagcttatat	caatcttggt	tgctattatg	tttttggact	1320
67	ccctcttgga	tatcttcttg	gttatgtagc	aaaattagga	acaaagggac	tttggttagg	1380
69	gatgatagca	ggggcagctt	tcgagactct	tctactcttg	attatactgt	ataagactaa	1440
71	ctggaacaag	gagggttaacg	acacgacgga	gcgtatgcgc	aagtggggag	gtcaagattt	1500
73	tgagacacag	aaatctgcag	atgggcagtt	aactattgag	aatgggtggt	ttgcttaagt	1560
75	ttatgattga	ttcattgaaa	taatgtat	tttcttggtt	atgtttgagt	ttgaaacttg	1620
77	taaaatctgt	ttcttttggt	atacactcag	caatagaaac	gtgggttttc	caatt	1675

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81 <211> LENGTH: 506
82 <212> TYPE: PRT
83 <213> ORGANISM: Lycopersicon esculentum
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88 1 5 10 15
91 Asp Leu Ile Gly Ala Asp Gly Asp Tyr Arg Pro Ala Lys Ser Thr Lys
92 20 25 30
95 Asp Trp Trp Ala Ile Phe Cys Val Glu Thr Leu Lys Leu Trp Arg Ile
96 35 40 45
99 Gly Gly Pro Ile Ala Phe Asn Ile Ile Cys Gln Tyr Gly Val Asn Ser
100 50 55 60
103 Leu Thr Asn Ile Phe Val Gly His Leu Gly Asn Val Glu Leu Ser Ala
104 65 70 75 80
107 Ile Ser Ile Ala Gln Thr Val Ile Ser Thr Phe Ser Phe Gly Phe Met
108 85 90 95
111 Met Gly Met Gly Ser Ala Leu Glu Thr Leu Cys Gly Gln Ala Tyr Gly
112 100 105 110
115 Ala Gly Gln Val His Met Leu Gly Val Tyr Met Gln Arg Ser Ile Ile
116 115 120 125
119 Ile Leu Leu Ala Thr Cys Val Phe Leu Leu Pro Ile Tyr Leu Phe Thr
120 130 135 140
123 Thr Pro Leu Leu Val Leu Leu Gly Gln Glu Thr Ala Ile Ala Asp Leu
124 145 150 155 160
127 Ser Gly Arg Tyr Thr Met Leu Leu Ile Pro Gln Leu Phe Ser Leu Ala
128 165 170 175
131 Ile Asn Phe Pro Thr Ser Lys Phe Leu Gln Ala Gln Ser Lys Val Asp
132 180 185 190
135 Val Leu Ala Gly Ile Gly Phe Ala Ala Val Leu Val His Ala Leu Phe
136 195 200 205
139 Leu Trp Leu Phe Ile Tyr Thr Leu Glu Trp Gly Thr Asn Gly Ala Ala
140 210 215 220
143 Ile Ala Phe Asp Leu Thr Asn Trp Leu Thr Ala Met Ala Gln Leu Ala
144 225 230 235 240
147 Tyr Val Val Gly Trp Cys Lys Asp Gly Trp Lys Gly Leu Ser Trp Ser
148 245 250 255
151 Ala Phe Asn Glu Ile Trp Ala Phe Val Arg Leu Ser Ile Ala Ser Ala
152 260 265 270
155 Val Met Leu Cys Leu Glu Ile Trp Tyr Met Met Ser Ile Ile Leu Leu
156 275 280 285
159 Val Gly His Leu Asn Asn Ala Val Ile Ala Val Gly Ser Ile Ser Ile
160 290 295 300
163 Cys Met Asn Ile Asn Gly Trp Glu Ser Met Leu Phe Ile Gly Ile Asn
164 305 310 315 320
167 Ala Ala Ile Ser Ile Arg Val Ser Asn Glu Leu Gly Gln Gly His Pro
168 325 330 335
171 Arg Ala Thr Lys Tyr Ser Val Tyr Ile Thr Val Phe Gln Ser Leu Leu
172 340 345 350

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175 Ile Gly Ile Leu Cys Met Val Ile Val Leu Val Ala Arg Asp His Leu
176           355           360           365
179 Ala Ile Ile Phe Ser Asn Ser Lys Glu Met Gln Glu Ala Val Ala Asp
180       370           375           380
183 Leu Ala Tyr Leu Leu Gly Ile Thr Met Val Leu Asn Ser Val Gln Pro
184 385           390           395           400
187 Val Ile Ser Gly Val Ala Val Gly Gly Gly Trp Gln Ala Leu Val Ala
188           405           410           415
191 Tyr Ile Asn Leu Gly Cys Tyr Tyr Val Phe Gly Leu Pro Leu Gly Tyr
192           420           425           430
195 Leu Leu Gly Tyr Val Ala Lys Leu Gly Thr Lys Gly Leu Trp Leu Gly
196       435           440           445
199 Met Ile Ala Gly Ala Ala Leu Gln Thr Leu Leu Leu Leu Ile Ile Leu
200       450           455           460
203 Tyr Lys Thr Asn Trp Asn Lys Glu Val Asn Asp Thr Thr Glu Arg Met
204 465           470           475           480
207 Arg Lys Trp Gly Gly Gln Asp Phe Glu Thr Gln Lys Ser Ala Asp Gly
208           485           490           495
211 Gln Leu Thr Ile Glu Asn Gly Gly Val Ala
212           500           505
215 <210> SEQ ID NO: 3
216 <211> LENGTH: 1067
217 <212> TYPE: DNA
218 <213> ORGANISM: Lycopersicon esculentum
220 <400> SEQUENCE: 3
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223 ttcatatata gctatcttcc tctttgccta taaacaataa tcagtgtaaa aatgcccaacc      120
225 accatggaag atgtcactgc caagattgat gcagttgaaa tcgactccaa gagtgttggt      180
227 gctctgaagg agaaggcgat cgaaggtgaa gtaaagacta cagaaacaac acaagagaag      240
229 actaatgaag ctaaaagtaa tccggagaaa gaatccaatg gtgcaacttt caaagaagag      300
231 gaagttccag ttgaggttga acctaaaact ggagtctctt ttcctgtcaa acttgaagat      360
233 ggaaagcagt tgaaagctgt aggtttaagg aagaagagca tgcttggcat gggcatcaaa      420
235 atctatggct ttggaatata tgcagacaat gagaaattga aagacctcat gcagtccaag      480
237 attgcgaaag caccagcaaa accaacaaaag gagatgtatc aaatggtgat tgatagtgat      540
239 ttgggaatga tgatgcggtt ggtaattgtt ttctctaacc taaccatgaa catggtaaga      600
241 aagaactttg acgaaggcct cggagctgcc atcaagaagc ttacaggtgg aaagaatgag      660
243 gagctcacia agaagatcat gggagaagca tctgatgaca taaagctgaa ttctggttct      720
245 gtaattgaga tttcaaggct tccaggatat gtccttcaga ccaaagtaaa gggtgagatt      780
247 gtgagcaagg tggaaagtga actactctgc agggccttca tctacatgta tttaggtgat      840
249 gatccatttg acaaagaagc caaggagaag ttcgggacat ccatgctctc tctgttttaa      900
251 gtagtaggtt tccagcattt actagtctag gttgttaaa aataagctgt ggtgactttg      960
253 aactgatgaa taatagctca ataaaagcat ggttgatttt caaaaaaaaaa aaaaaaaaaa     1020
255 aaaaaaaaaa aagtacctgc ccgggcggcc gctcgaaagc cgaattc      1067
258 <210> SEQ ID NO: 4
259 <211> LENGTH: 250
260 <212> TYPE: PRT
261 <213> ORGANISM: Lycopersicon esculentum
263 <400> SEQUENCE: 4
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266 1           5           10           15
269 Ile Asp Ser Lys Ser Val Val Ala Leu Lys Glu Lys Ala Ile Glu Gly
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273 Glu Val Lys Thr Thr Glu Thr Thr Gln Glu Lys Thr Asn Glu Ala Lys
274           35           40           45
277 Ser Asn Pro Glu Lys Glu Ser Asn Gly Ala Thr Phe Lys Glu Glu Glu
278           50           55           60
281 Val Pro Val Glu Val Glu Pro Lys Thr Gly Val Ser Phe Pro Val Lys
282 65           70           75           80
285 Leu Glu Asp Gly Lys Gln Leu Lys Ala Val Gly Leu Arg Lys Lys Ser
286           85           90           95
289 Met Leu Gly Met Gly Ile Lys Ile Tyr Gly Phe Gly Ile Tyr Ala Asp
290           100          105          110
293 Asn Glu Lys Leu Lys Asp Leu Met Gln Ser Lys Ile Ala Lys Ala Pro
294           115          120          125
297 Ala Lys Pro Thr Lys Glu Met Tyr Gln Met Val Ile Asp Ser Asp Leu
298           130          135          140
301 Gly Met Met Met Arg Leu Val Ile Val Phe Ser Asn Leu Thr Met Asn
302 145          150          155          160
305 Met Val Arg Lys Asn Phe Asp Glu Gly Leu Gly Ala Ala Ile Lys Lys
306           165          170          175
309 Leu Thr Gly Gly Lys Asn Glu Glu Leu Thr Lys Lys Ile Met Gly Glu
310           180          185          190
313 Ala Ser Asp Asp Ile Lys Leu Asn Ser Gly Ser Val Ile Glu Ile Ser
314           195          200          205
317 Arg Leu Pro Gly Tyr Val Leu Gln Thr Lys Val Lys Gly Glu Ile Val
318           210          215          220
321 Ser Lys Val Glu Ser Glu Leu Leu Cys Arg Ala Phe Ile Tyr Met Tyr
322 225          230          235          240
325 Leu Gly Asp Asp Pro Phe Asp Lys Glu Ala
326           245          250
329 <210> SEQ ID NO: 5
330 <211> LENGTH: 365
331 <212> TYPE: DNA
332 <213> ORGANISM: Lycopersicon esculentum
334 <400> SEQUENCE: 5
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337 gcaattcagc taatgtttgc agaggtgcag atgttaacgc cagtagtggg gacgagagaa      120
339 gtgtattttg tgagatattg caaacaatg agtgcagcac agtgggggat tgtggatgtt      180
341 tctgtcgaca aagttgaagc cagcattgac gcttctctcc ttaaatagcag aaaattaccc      240
343 tcaggatgca ttctacaaga acaatccaat gcacattgca aggtgacgtg ggtggaacac      300
345 ttggagtgcc aaaaaaacat agtggactct ctgtacctcg gccgcgacca cgctaagccg      360
347 aattc                                           365
350 <210> SEQ ID NO: 6
351 <211> LENGTH: 450
352 <212> TYPE: DNA
353 <213> ORGANISM: Lycopersicon esculentum
355 <400> SEQUENCE: 6
356 agcggccgcc cgggcaggta ctaggacatc acaacaaaaa aaaaaagag gaaaaatggt      60

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358 agtgaaagtg tatggttcag caatggctgc atgtccacaa agggtcatgg tttgtcttat 120
360 agaattggga gtcgattatg aacttataca tggtgatctt gattctctcc agcagaaaaa 180
362 acctgatttc ttgcttttac aggtaatat ttagttgtcg cttttaactt atcaaaagaa 240
364 aatcatatctt actcataaca ttaattactt atgcttcgaa tcgctttggt atatattctt 300
366 gcagccattt ggacagggtc ctgtcattga agagggcgat ttcaggcttt tcggtaacta 360
368 tatactatca ttattaaagc caggccattt gaggcaaatc agccactcc actagaagta 420
370 cctcgccgcg gaccacgcta agccgaattc 450
373 <210> SEQ ID NO: 7
374 <211> LENGTH: 448
375 <212> TYPE: DNA
376 <213> ORGANISM: Lycopersicon esculentum
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381 gggtagtgca ttggagacac tatgtggcca ggcataatgga gcagggcaag ttcacatggt 120
383 gggcgtttat atgcaacgat ccatcataat cctgctagct acttggtgtt ttctattgcc 180
385 catttactta ttcaccactc cacttctcgt gttgctaggc caagaaactg caatagcgga 240
387 cctctctgga agatatacca tgttactcat cccacagttg ttttcacttg ctatcaattt 300
389 tcctacttcc aaatttcttc aagctcagag taaagtggat gttctcgtcg ggattggatt 360
391 cgcagctgtg ctgggtgcacg ctttgttcct ctggctcttt atatatacac ttgaatgggg 420
393 tacctgcccg ggcggccgct ccgaattc 448
396 <210> SEQ ID NO: 8
397 <211> LENGTH: 1067
398 <212> TYPE: DNA
399 <213> ORGANISM: Lycopersicon esculentum
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404 ttcatatata gctatcttcc tctttgcta taaacaataa tcagtgtaaa aatgccaac 120
406 accatggaag atgtcactgc caagattgat gcagttgaaa tcgactccaa gagtgttggt 180
408 gctctgaagg agaaggcgat cgaagggtgaa gtaaagacta cagaaacaac acaagagaag 240
410 actaatgaag ctaaaagtaa tccggagaaa gaatccaatg gtgcaacttt caaagaagag 300
412 gaagttccag ttgaggttga acctaaaact ggagtcctct ttctgtcaa acttgaagat 360
414 ggaaagcagt tgaaagctgt aggtttaagg aagaagagca tgcttggcat gggcatcaaa 420
416 atctatggct ttggaatata tgcagacaat gagaaattga aagacctcat gcagtccaag 480
418 attgcgaaaag caccagcaaa accaacaagg gagatgtatc aaatggtgat tgatagtgat 540
420 ttgggaatga tgatgcgggt ggtaattggt ttctctaacc taaccatgaa catggtgaaga 600
422 aagaactttg acgaaggcct cggagctgcc atcaagaagc ttacagggtg aaagaatgag 660
424 gagctcacia agaagatcat gggagaagca tctgatgaca taaagctgaa ttctggttct 720
426 gtaattgaga tttcaaggct tccaggatat gtccttcaga ccaaagtaaa gggtgagatt 780
428 gtgagcaagg tggaaagtga actactctgc agggccttca tctacatgta tttaggtgat 840
430 gatccatttg acaaagaagc caaggagaag ttcgggacat ccatgctctc tctgttttaa 900
432 tagtaggttt tccagcattt actagtctag gttgttaaag aataagctgt ggtgactttg 960
434 aactgatgaa taatagctca ataaaagcat ggttgatttt caaaaaaaaa aaaaaaaaaa 1020
436 aaaaaaaaaa aagtacctgc ccgggcggcc gctcgaaagc cgaattc 1067
439 <210> SEQ ID NO: 9
440 <211> LENGTH: 632
441 <212> TYPE: DNA
442 <213> ORGANISM: Lycopersicon esculentum
444 <400> SEQUENCE: 9
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RAW SEQUENCE LISTING ERROR SUMMARY  
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:11; N Pos. 712,713,714,752,758,801,811,827

VERIFICATION SUMMARY

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Input Set : A:\EP04-001C-USpatentin.txt

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L:10 M:270 C: Current Application Number differs, Replaced Current Application No  
L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:548 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:660  
L:550 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:720  
L:552 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:780